

REMARKS

Claims 1-17 are pending and stand ready for further action on the merits. Support for the amendment to claim 1 can be found in the paragraph bridging pages 12 and 13 and in the examples. Claim 2 has been amended consistent with the amendment to claim 1. Claim 7 has been amended for clarity. No new matter has been added by way of the above-amendment.

[I] Issues Under 35 U.S.C. 112, 2nd paragraph

Claim 7 is rejected under 35 U.S.C. 112, 2nd paragraph for being indefinite. Applicants respectfully traverse the rejection.

Specifically, the Examiner objects to the fact that at line 5, claim 7 refers to conditions (A) and (B) and yet at lines 6 and 8, claim 7 refers to conditions (C) and (D), respectively. In response, Applicants have followed the Examiner's suggestion of amending line 6 by replacing "(C)" with "(A)" and line 8 by replacing "(D)" with "(B)".

In view of the foregoing, Applicants respectfully submit that the claims, as presently amended, particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As such, withdrawal of the rejection is respectfully requested.

[III] Issues Under 35 USC §102 and §103

The Examiner has imposed the following prior art-based rejections:

(1) claims 1-13, 15-17 are rejected under 35 USC 102(b) or under 35 USC 103(a) as being unpatentable over Kato - USP 6,174,663 B1;

(2) claim 14 is rejected under 35 USC 103(a) as being unpatentable over Kato and Milton - USP 3,544,336;

(3) claims 1-6, 9-10 and 15-17 are rejected under 35 USC 102(b) or under 35 USC 103(a) as being unpatentable over European Patent 0803764 A1 (EP '764);

(4) claims 1-4 are rejected under 35 USC 102(b) as being anticipated by Japanese Patent 2000-010229 (JP '229);

(5) claims 1-6 are rejected under 35 USC 102(b) or under 35 USC 103(a) as being unpatentable over European Patent 0911691 A1 (EP '691); and

(6) claims 7-17 are rejected under 35 USC 103(a) as being unpatentable over EP '691, Kato, Harring et al. - USP 5,637,449 and EP '764.

Applicants respectfully traverse each of the rejections.

[II - A] Rejections (1)-(4)

With regard to rejections (1)-(4), Applicants respectfully submit that the presently claimed invention is patentable over any combination of Kato, Milton, EP '764 and JP '229, since these references fail to teach or fairly suggest forming a heat-developable image recording material with a binder in an emulsion

layer wherein the binder includes a polymer latex having a halogen ion content of not more than 100ppm.

The Examiner appears to recognize that these references do not teach or suggest using a polymer latex having a low halogen ion content. The Examiner's position is shown in the following statement which can be found on page 3, lines 2-7 from the bottom of the outstanding Office Action:

Kato discloses the use of the polymer latex as binder in the undercoat layer and in the imaging layer. Kato does not disclose whether the halogen ion contained in the latex, and therefore, it is assumed that the latex taught therein contains no halogen ion content therein. Since the scope of "polymer latex has halogen ion content of not more than 500 ppm" include 0.0 ppm, it is asserted that the scope of latex claimed in the present claimed invention and that taught in Kato is similar.

Even though the above-comments relate to Kato, the Examiner takes a similar position with respect to each of Milton, EP '764 and JP '229. Therefore, the following comments relate to the patentability of the present invention over each of Kato, Milton, EP '764 and JP '229.

In response to the Examiner's position, Applicants have amended claim 1 to recite an upper limit of halogen ion concentration of 100ppm. Applicants respectfully submit that none of Kato, Milton, EP '764 nor JP '229 teach or fairly suggest lowering the halogen ion concentration to 100ppm in the latex used in the binder of an emulsion layer. This reduction of halogen ions

can be performed by forming the latex with halide-free starting materials or by removing free halide from the latex once formed.

The Examiner appears to be assuming the cited references use latex binders which inherently have a halogen ion content of not more than 100ppm. Applicants respectfully disagree.

To support an anticipation rejection based upon inherency, an Examiner must provide factual and technical grounds establishing that the inherent feature *necessarily* flows from the teachings of the prior art. See *Ex parte Levy* 17 USPQ2d 1461 (BOPAI 1990); see also *In re Oelrich*, 212 USPQ 323 (CCPA 1981) holding that inherency *must* flow as a necessary conclusion from the prior art, not simply a possible one.

Since there is no evidence that the binder in an emulsion layer includes a polymer latex having a halogen ion content of not more than 100ppm for any of Kato, Milton, EP '764, or JP '229, Applicants respectfully submit that these rejections are not tenable. As such, Applicants respectfully request withdrawal of rejections (1)-(4).

As further evidence that Kato and EP '764 fail to teach or suggest a binder in an emulsion layer that includes a polymer latex having a halogen ion content of not more than 100ppm, Applicants enclose herewith a Declaration under 37 C.F.R. 1.132 by Mr. Yuki Aoki. Mr. Aoki has analyzed the latex dispersion for an emulsion layer of Kato and has found that the SBR latex (LACSTAR 3307B) of

Kato has a chloride ion content of 106.8ppm. This particular latex was used by EP '764 in Example 212 of Table 9. Since Kato and EP '764 fail to teach or suggest additional steps for removing the chloride ion content of this latex in the emulsion layer, Applicants respectfully submit that Kato and EP '764 do not render the inventive heat-developable image recording material unpatentable.

[III - B] Rejections (5)-(6)

In both rejections (5) and (6), the Examiner relies upon EP '691 for teaching a binder having a polymer latex having a halogen ion content of not more than 500ppm. In response, Applicants have amended claim 1 to recite that the binder is in an emulsion layer and includes a polymer latex having a halogen ion content of not more than 100ppm.

Applicants note that EP '691 is in the same patent family as JP-A-11-129629 (JP '629), which is described in the second paragraph on page 4 of the present specification. As noted therein, EP '691 (and JP '629) use dialysis to purify the latex. The present inventors have found that the method of purifying a latex using a dialysis membrane, has the disadvantage of degrading the coating property due to the aggregation of latex. This deleterious effect can be seen in the experiments described in the present specification. The following table contains data which correspond

to the data of Table 1 found on page 174 of the present specification.

Sample No	Binder for Image Forming Layer		Coating Property	Image Preservability
	Species	Halogen Ion Content (ppm)		
102	RP-1	1,000	B	0.144
103	RP-2	550	C	0.033

As described in the first paragraph on page 172, the difference between samples 102 and 103 is that sample 103 was prepared by purifying the latex of sample 102 using dialysis. Accordingly, there is a marked reduction in the halogen ion content which results in improved image preservability of the heat-developable image recording material. However, the coating property is disadvantageously reduced.

The advantage of the present invention is that the image preservability of the heat-developable image recording material is improved without a concurrent reduction in the coating property. This combination of properties is neither taught nor suggested by the prior art.

As evidence that the polymer latex used by EP '691 does not have the inventive halogen ion content of 100ppm or less, the polymer latex LACSTAR 3307B (SBR latex) was subjected to

ultrafiltration and analyzed to have a chloride ion content of 106.8ppm as described in the enclosed Declaration by Mr. Aoki.

The present inventors have surprisingly found that in order to decrease the halogen ion concentration to a level of not more than 100ppm, the additives have to be desalted by electrodialysis prior to formation of the latex as demonstrated in the Synthesis Example described on page 29. Since none of the cited references teach or suggest such a desalting step, the presently claimed invention is patentably distinct from the cited references. As such, withdrawal of rejections (5) and (6) are respectfully requested.

[III] Drawings

Applicants note that the present application has been filed with one (1) sheet of drawings. However, the Examiner has not indicated whether the drawings are acceptable. Applicants respectfully request that the Examiner indicates whether the drawings are acceptable in the next communication.

Conclusion

In view of the above amendments and comments, Applicants respectfully submit that the claims are in condition for allowance. A notice to such effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully

requested to contact Garth M. Dahlen (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

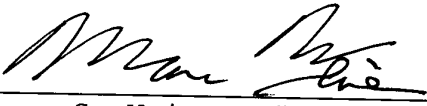
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By


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Attachment: Declaration under 37 C.F.R. 1.132 by Mr. Yuki Aoki